Project Approval

Section 75J of the *Environmental Planning and Assessment Act 1979*

I approve the project referred to in schedule 1, subject to the conditions in schedules 2 to 4.

These conditions are required to:

- prevent and/or minimise adverse environmental impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the project.

Frank Sartor MP
Minister for Planning

Sydney 2nd June 2008

SCHEDULE 1

Application No:	07_0066
Proponent:	Manildra Park Pty Ltd
Approval Authority:	Minister for Planning
Land:	Lots 10, 11, 12 and 13 DP 234887, Lot 7 DP 262783, Lots 3 and 4 DP 573972, Lot 361 DP 1104196 and Lots 28 and 34 DP 775776, Greenleaf Road, Kooragang Island, Newcastle
Project:	Marine fuel storage facility, biodiesel production facility, pipeline and associated infrastructure

DEFINITIONS

Council	City of Newcastle Council
Day	The period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays
DECC	Department of Environment and Climate Change
Department	Department of Planning
Director-General	Director-General of the Department (or delegate)
DWE	Department of Water and Energy
EA	*Environmental Assessment Marine Fuel Storage/Distribution and Biodiesel Production Facility, Kooragang Island,* Umwelt, January 2008
EP&A Act	*Environmental Planning and Assessment Act 1979*
EP&A Regulation	*Environmental Planning and Assessment Regulation 2000*
EPL	Environmental Protection Licence issued under the *Protection of the Environment Operations Act 1997*
Evening	The period from 6pm to 10pm
Minister	Minister for Planning
NPC	Newcastle Port Corporation
Night	The period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays
Orica EMP	Environmental Management Plan for Orica Australia Pty Ltd, 15 Greenleaf Road, Kooragang Island prepared by URS 2006
Project	Construction and operation of a marine fuel storage facility, biodiesel production facility and pipeline (as described in the EA and Submissions Report)
Proponent	Manildra Park Pty Ltd (Manildra Park)
Site	Land to which application applies (see Schedule 1)
Statement of Commitments	Statement of Commitments provided in the Submissions Report, April 2008 and reproduced in Appendix B
Submissions Report	Response to Submissions prepared by Umwelt, April 2008

SCHEDULE 2
ADMINISTRATIVE CONDITIONS

Obligation to Minimise Harm to the Environment

1. The Proponent shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction and/or operation of the project.

Terms of Approval

2. The Proponent shall carry out the project generally in accordance with the:
   a) EA;
   b) site plan (see Appendix A);
   c) statement of commitments (see Appendix B); and
   d) conditions of this approval.

3. If there is any inconsistency between the above, then the conditions of this approval shall prevail to the extent of the inconsistency.

4. The Proponent shall comply with any reasonable requirement/s of the Director-General arising from the Department's assessment of:
   a) any reports, plans, strategies or programs that are submitted in accordance with this approval; and
   b) the implementation of any actions or measures contained in these reports, plans, strategies or programs.

Limits on Storage and Production

5. The Proponent shall ensure that the facility does not exceed a maximum annual storage volume of 577 million litres of fuel.

6. The Proponent shall ensure that the biodiesel facility does not exceed a maximum production volume of 52 million litres of biodiesel a year.

Section 94

7. Prior to the commencement of construction, the Proponent shall make suitable provisions for contributions in accordance with *Newcastle Section 94A Development Contributions Plan, 2006*, in consultation with Council, and to the satisfaction of the Director-General.

Management Plans/Monitoring Programs

8. With the approval of the Director-General, the Proponent may submit any management plan required by this approval on a progressive basis.

Structural Adequacy

9. The Proponent shall ensure that any new buildings and structures on the site are constructed in accordance with the relevant requirements of the BCA.

   Notes:
   - *Under Part 4A of the EP&A Act, the Proponent is required to obtain construction and occupation certificates for any building works.*
   - *Part 8 of the EP&A Regulation sets out the requirements for the certification of the project.*

Protection of Public Infrastructure

10. Prior to the commencement of construction, the Proponent shall:
    a) prepare a dilapidation report of the public infrastructure in the vicinity of the site (including roads, gutters, footpaths, etc) in consultation with Council; and
    b) submit a copy of this report to the Director-General.

11. The Proponent shall:
    a) repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the development; and
    b) relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the development.

Operation of Plant and Equipment

12. The Proponent shall ensure that all plant and equipment used on the site is:
    a) maintained in a proper and efficient condition; and
    b) operated in a proper and efficient manner.

SCHEDULE 3
SPECIFIC ENVIRONMENTAL CONDITIONS

HAZARDS AND RISK

Pre-Construction

13. At least one month prior to construction, the Proponent shall submit for the approval of the Director General, the following studies:
    a) a **Fire Safety Study -** This study shall cover the relevant aspects of the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 2, 'Fire Safety Study Guidelines'* and the New South Wales Government's '*Best Practice Guidelines for Contaminated Water Retention and Treatment Systems'*. The study shall also be submitted for approval, to the NSW Fire Brigade. The fire fighting water requirements must consider a fire at the largest tank/bund and take into account the water requirements for cooling other tanks and plant in the vicinity of the fire. The design of the site fire suppression system should be carried out in consultation with the NSW Fire Brigade.
    b) a **Hazard and Operability Study** chaired by an independent qualified person approved by the Director General prior to the commencement of the study. The study shall be carried out in accordance with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 8, 'HAZOP Guidelines'*. The study report must be accompanied by a program for the implementation of all recommendations made in the report. If the Proponent intends to defer the implementation of a recommendation, justification must be included. The HAZOP must address the adequacy of the control system to effectively achieve a safe shutdown in the event of a malfunction with potential for off site impacts and/or on site escalation;
    c) a **Final Hazard Analysis** prepared in accordance with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 6, 'Guidelines for Hazard Analysis'*. The Final Hazard Analysis should:
        a. include consideration of interaction with the adjacent approved Marstel Terminal site;
        b. consider relocating emergency critical services/equipment such as the electrical cubicle and foam supply away from high radiation areas ;
        c. confirm implementation of the recommendations made in the Preliminary Hazard Analysis dated October 2007 and other recommendations made in the Final Hazard Analysis;
        d. include details of the floating roof and nitrogen blanketing system for the methanol tank storage and process tanks, respectively; and
        e. give details of the lightening protection system for the tanks and plant.
    d) a **Construction Safety Study** prepared in accordance with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 7, 'Construction Safety Study Guidelines'*. Given that the site will be operational during Phases 2 and 3 of construction, the study shall include details for ensuring overall site safety.

Pre-Commissioning

14. The Proponent shall develop and implement the plans and systems set out below no later than two months prior to commissioning. The Proponent shall submit for the approval of the Director General documentation describing those plans and systems, no later than two months prior to commissioning. Commissioning shall not commence until approval has been given by the Director General.
    a) a comprehensive **Emergency Plan** and detailed emergency procedures. This plan shall include detailed procedures for the safety of all people outside of the project who may be at risk from the project. The plan shall be in accordance with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 1, 'Industry Emergency Planning Guidelines'*; and
    b) a document setting out a comprehensive **Safety Management System** covering all on-site operations and associated transport activities involving hazardous materials. The document shall clearly specify all safety related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to the procedures. Records shall be kept on-site and shall be available for inspection by the Director General upon request. The Safety Management System shall be developed in accordance with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 9, 'Safety Management'.* Where the Safety Management System needs updating to accurately reflect subsequent

phases, the Proponent shall notify the Director-General in writing of the changes and if required by the Director-General, submit the updated document for approval.

Pre-Startup

15. One month prior to the commencement of operations, the Proponent shall submit to the Director-General, a **Pre-Start Up Compliance Report** detailing compliance with conditions 13 and 14, including:
    a) dates of study/plan/system submission, approval, commencement of construction and commissioning;
    b) actions taken or proposed, to implement recommendations made in the studies/plans/systems; and
    c) responses to each requirement imposed by the Director-General under condition 17.

Post-Startup

16. Three months after commencement of operation of the project, the Proponent shall submit to the Director General, a **Post-Start Up Compliance Report** verifying that:
    a) the Emergency Plan required under condition 14a) is effectively in place and that at least one emergency exercise has been conducted; and
    b) the Safety Management System required under condition 14b) has been fully implemented and that records required by the system are being kept.

17. The Proponent shall comply with all reasonable requirements of the Director-General in respect of the implementation of any measures arising from the reports submitted in respect of conditions 13 to 16 inclusive, within such time as the Director-General may agree.

CONTAMINATION

Groundwater

18. Prior to the undertaking any works that may intercept groundwater, the Proponent shall ensure any relevant licence is obtained in accordance with the *Water Act 1912.*

19. The Proponent shall implement, to the satisfaction of the Director-General, a Groundwater Monitoring Program for the construction and operational phases of the project. The program shall be submitted to the Director-General prior to commencement of construction and shall:
    a) be prepared by a suitably qualified expert and in consultation with the DECC;
    b) establish baseline groundwater quality data (pre-construction);
    c) detail sample locations (including tank farm, pipeline and upstream locations), frequencies, testing parameters and limits to detect groundwater contamination during construction and operation;
    d) detail corrective actions for exceedances, a monitoring program and reporting procedures; and
    e) comply with any other requirements of an EPL for the project.

20. Prior to commencement of works within the Orica contamination zone, the Proponent shall implement relevant management measures detailed in the Orica EMP for management of contaminated groundwater.

21. Prior to commencement of construction works that may intercept groundwater, including construction of the oil separation and spill pits, the Proponent shall implement management measures, similar to relevant management measures detailed in the Orica EMP for management of contaminated groundwater.

Soils

22. Prior to commencement of construction, the Proponent shall conduct further soil sampling and analysis to identify and delineate areas of lead contamination around the perimeter of the existing tanks on site. The proposed sampling program shall be developed to the satisfaction of the Director-General and in consultation with the DECC. Results of sampling shall be provided to the Director-General and incorporated, where appropriate, into the Remediation Action Plan required by condition 25.

23. During excavation on site and along the pipeline route, the Proponent shall implement measures to manage acid sulfate soils, in accordance with the *Acid Sulfate Soils Manual*, Acid Sulfate Soils Management Advisory Committee, 1998

24. Only virgin excavated natural material can be used for the bund construction unless otherwise approved by the Director-General.

Remediation

25. Prior to commencement of construction, the Proponent shall prepare a Remediation Action Plan (RAP), in consultation with the DECC to address lead contaminated soils around the perimeter of the existing tanks on site. The RAP shall be approved by an accredited site auditor. Prior to construction on land identified in the RAP as contaminated, the Proponent shall remediate the land in accordance with the requirements of the *Contaminated Land Management Act 1997* and the recommendations of the RAP.

SOIL AND WATER MANAGEMENT

Discharge Limits

26. Except as may be expressly provided in an EPL for the project, the Proponent shall comply with Section 120 of the *Protection of the Environment Operations Act 1997*.

27. All wastewater generated from the on-site treatment of sewage and the production of biodiesel must be removed from the site to a facility that is lawfully able to reuse or dispose of it.

Bunding

28. Prior to commencement of operations, the Proponent shall submit to the DECC, details of an inventory system to accurately measure and report product losses.

29. Prior to commencement of construction of the tank farm bund, the Proponent shall prepare, to the satisfaction of the Director-General, a **Tank Farm Bunding Detailed Design and Construction Report**. The report must:
    a) be prepared by a suitably qualified expert and in consultation with the DECC;
    b) include design detail of the bund lining system to achieve an impermeable barrier;
    c) detail that all bunds will be designed, constructed and maintained in accordance with *AS 1940:2004* and the DECC's Technical Guideline *Bunding and Spill Management*;
    d) detail early warning leak detection and prevention systems to be installed, prior to commencement of operations, that are certified by a site auditor accredited under the *Contaminated Land Management Act, 1997*;
    e) detail bund construction methodology including quality assurance procedures;
    f) detail measures to manage liquids within the bund to ensure no migration of contaminants occurs that could cause pollution of land and groundwater;
    g) demonstrate that materials contained within the bund are compatible with bund construction such that its long-term function is not impaired; and
    h) detail assessment and monitoring programs to ensure the bund achieves its performance objectives and continues to provide an effective barrier for the prevention of pollution of land and waters.

30. Prior to commencement of operations, the Proponent shall submit, to the satisfaction of the Director-General and the DECC, a report confirming that the bunds have been installed in accordance with condition 29. The report shall include:
    a) as-constructed drawings from field surveys depicting the base elevation of the bund, upper surface of the liner(s), geotextiles, engineered liners and sealed layers of the bund;
    b) construction quality control results; and
    c) written advice from the person(s) overseeing the works that the bunds were installed in accordance with the approved design and construction specifications.

31. Prior to commencement of operations, the Proponent shall implement a **Containment Bund, Tank and Pipeline Integrity Assessment Program**. The program must detail measures to assess the integrity of the tank farm containment bund, other containment structures, tanks and pipelines during the life of the facility.

Spill Prevention and Management

32. The Proponent shall develop performance assessment, maintenance and management procedures for all bunds, pipelines and tanks. The procedures shall be submitted to the DECC and the Department and be to the satisfaction of the Director-General, prior to commencement of operations, and must:
    a) be prepared by a suitably qualified expert;
    b) include a **Fuel Spill Response and Prevention Plan** including a commitment of manpower, equipment and materials in the event of a leak or spill;
    c) include a **Monitoring Program** to detect leaks, spills or other discharges;
    d) include a **Site Security Plan** detailing how access to fuel storages, pipelines and loading and unloading connections will be secured and controlled; and
    e) detail staff training procedures.

Erosion and Sediment Control

33. Prior to commencement of construction, the Proponent shall implement erosion and sediment controls in accordance with the Department of Housing and Landcom's *Managing Urban Stormwater: Soils and Construction*.

34. Prior to commencement of operations, the Proponent shall implement a stormwater management scheme for the site that is consistent with the stormwater management plan for the catchment. Where a plan has not yet been prepared, the scheme shall be consistent with the guidance contained in the DECC's *Managing Urban Stormwater: Council Handbook*.

ABORIGINAL CULTURAL HERITAGE

35. Should sub-surface Aboriginal heritage material be identified, the Proponent shall stop work, notify the DECC and prepare, in consultation with the DECC, an assessment of significance and report on how those values may be impacted by the project, to the satisfaction of the Director-General. Appropriate avoidance, mitigation, management and/or compensatory measures must be included in the report. Works may recommence following approval from the DECC.

NOISE

Noise Limits

36. The Proponent shall ensure that noise from the site does not exceed the noise limits presented in Table 1. The noise limits in Table 1 represents the noise contribution from the site.

Table 1: Project Noise Limits (dB(A))

Location	Day	Evening	Night
Stockton West	$L_{Aeq\ (15\ minute)}$ 35	$L_{Aeq\ (15\ minute)}$ 35	$L_{Aeq\ (15\ minute)}$ 40
	$L_{Aeq\ (day)}$ 35	$L_{Aeq\ (evening)}$ 35	$L_{Aeq\ (night)}$ 37
Any other sensitive receiver	$L_{Aeq\ (15\ minute)}$ 35	$L_{Aeq\ (15\ minute)}$ 35	$L_{Aeq\ (15\ minute)}$ 35
	$L_{Aeq\ (day)}$ 35	$L_{Aeq\ (evening)}$ 35	$L_{Aeq\ (night)}$ 35

Notes:

- *Noise from the premises is to be measured at the most affected point on or within the residential boundary or at the most affected point within 30m of the dwelling (rural situations) where the dwelling is more than 30m from boundary to determine compliance with the $L_{Aeq(15\ minute)}$ noise limits in condition 36.*
- *Where it can be demonstrated that direct measurement of noise from the premises is impractical, the EPA may accept alternative means of determining compliance. See Chapter 11 of the NSW Industrial Noise Policy.*
- *The modification factors presented in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise level where applicable.*
- *The noise emission limits identified in Table 1 apply under meteorological conditions of:*
    - *wind speeds up to 3 m/s at 10 metres above ground level; or*
    - *temperature inversion conditions of up to 3°C/100m and wind speeds up to 2 m/s at 10 metres above ground level.*

Hours of Work

37. Unless otherwise agreed with the Director-General, the Proponent shall comply with the construction and operation hours in Table 2.

Table 2: Construction and Operation Hours for the Project

Activity	Day	Time
Construction	Monday – Friday	7am to 6pm
	Saturday	7am to 1pm
	Sunday and Public Holidays	Nil
Operation	Monday – Sunday	24 hours

Notes:

- *Construction activities may be conducted outside the hours in Table 2 provided that the activities are not audible at any residence beyond the boundary of the site;*
- *Works may be undertaken outside the hours in Table 2 as agreed through negotiation between Manildra Park and potentially affected noise receivers, or as otherwise agreed by the DECC;*
- *Emergency work to avoid the loss of life, property and/or prevent environmental harm may be undertaken outside the hours in Table 2.*

Operating Conditions

38. The Proponent shall implement all feasible and reasonable alternatives to audible alarms and PA systems.

39. The Proponent shall design, operate and maintain all pumps to ensure they are enclosed or mitigated for noise, to meet the relevant noise goals in Table 1.

AIR QUALITY

40. During the life of the project, the Proponent shall carry out all reasonable and feasible measures to minimise dust generated by the project.

41. The Proponent shall ensure that the project complies with Section 129 of the Protection of the Environment Operations Act, 1997.

Notes:

- *Section 129 of the Protection of the Environment Operations Act 1997, provides that the Proponent must not cause or permit the emission of any offensive odour from the site, but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.*

42. The Proponent shall ensure that nitrogen oxides, total solid particles and carbon monoxide do not exceed the concentration limits in Table 3.

Table 3: Concentration Limits

Pollutant	100 percentile limit (mg/m^3)	Reference Conditions
Nitrogen oxides	500	Dry, 273K, 101.3kPa
Total solid particles	30	Dry, 273K, 101.3kPa
Carbon monoxide	125	Dry, 273K, 101.3kPa

43. The Proponent shall submit an Operational Air Validation Report to the DECC within 6 months of commencement of biodiesel production. The report shall include results of emissions monitoring and validate compliance with condition 42.

VISUAL

44. Prior to commencement of construction, the Proponent shall submit to the Director-General for approval a Landscape Plan providing details of screening trees to be planted along the south eastern waterfront boundary of the site. The plan shall be prepared in consultation with Council and shall include a program for implementation.

GREENHOUSE GAS

Energy Savings Action Plan

45. The Proponent shall prepare and implement an Energy Savings Action Plan for the project to the satisfaction of the Director-General. This plan must be prepared in accordance with the requirements of the DWE and the *Guidelines for Energy Savings Action Plans, DEUS 2005*, and be submitted to the Director-General for approval prior to commencement of operation.

TRANSPORT

Operating Conditions

46. The Proponent shall ensure that:
    a) the internal road network and parking on site complies with Australian Standards *AS 2890.1:2004* and *AS 2890.2:2002*;
    b) vehicular access to the site is constructed in accordance with the requirements of Council; and
    c) site related vehicles do not queue on any public roads.

WASTE

47. The Proponent shall ensure that all waste generated on the site during construction and operation of the project is classified in accordance with the DECC's *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes* and is disposed of at a facility that may lawfully accept the waste.

PORT OPERATIONS

48. Prior to commencement of operations, the Proponent shall prepare and implement a Port Operations Management Plan in consultation with NPC. The plan shall:
    a) be submitted to NPC 8 weeks prior to entry of any project related vessels into the Port of Newcastle;
    b) include a Terminal Operating Manual covering all aspects of the wharf side and land based operations;
    c) include procedures for inspection of all vessels prior to entry into the Port of Newcastle to ensure they are free from biofouling;
    d) comply with requirements relating to port security zones and/or restricted areas and any security related directions from NPC; and
    e) include procedures for notifying NPC of any security related incidents within the Port of Newcastle.

PROCUREMENT OF FEEDSTOCK

49. The Proponent shall implement a Procurement Plan for the project, to the satisfaction of the Director-General. The plan shall be submitted prior to commencement of operation of the biodiesel facility and must:
    a) identify environmentally and socially responsible feedstock materials;
    b) include procedures for the sourcing of such feedstock materials;
    c) include evidence of legal sourcing of feedstock; and
    d) contain procedures for regular review of suppliers.

50. The Proponent shall provide evidence on an annual basis, to the satisfaction of the Director-General, to demonstrate compliance with condition 49.

SCHEDULE 4
ENVIRONMENTAL MANAGEMENT AND MONITORING

AUDITING

Compliance Audit

51. Prior to commissioning of the facility, the Proponent shall submit work as executed plans to the Department for all development associated with the project. These plans must be prepared by a suitably qualified and experienced expert, and must include plans showing the work as executed plans laid over the approved plans to demonstrate that the development has been carried out in accordance with the approved plans.

Hazard Audit

52. Twelve months after the commencement of operations, the Proponent shall carry out a comprehensive Hazard Audit of the project and within one month of the audit submit a report to the Director General.

    The audit shall be carried out at the Proponent's expense by a duly qualified independent person or team, approved by the Director General prior to commencement of the audit. Further audits shall be carried out every three years or as determined by the Director General and a report of each audit shall be submitted to the Director General within one month of the audit. Hazard Audits shall be carried out in accordance with the Department of Planning's *Hazardous Industry Planning Advisory Paper No. 5, 'Hazard Audit Guidelines'.*

53. The audit shall include a review of the site's Safety Management System and a review of all entries made in the incident register since the previous audit.

54. The audit report must be accompanied by a program for the implementation of all recommendations made in the audit report. If the Proponent intends to defer the implementation of a recommendation, justification must be included.

REPORTING

Incident Reporting

55. Within 24 hours of any incident or potential incident with actual or potentially significant off-site impacts on people or the biophysical environment, an Incident Report shall be supplied to the Department outlining the basic facts. A further detailed report shall be prepared and submitted following investigations of the causes and identification of necessary additional preventive measures. That report must be submitted to the Director General no later than 14 days after the incident or potential incident. The Proponent shall also notify the DECC and NPC immediately upon becoming aware of any pollution incident.

56. The Proponent shall maintain a register of accidents, incidents and potential incidents. The register shall be made available for inspection at any time by the independent Hazard Auditor and the Director General.

APPENDIX A: SITE LAYOUT PLAN

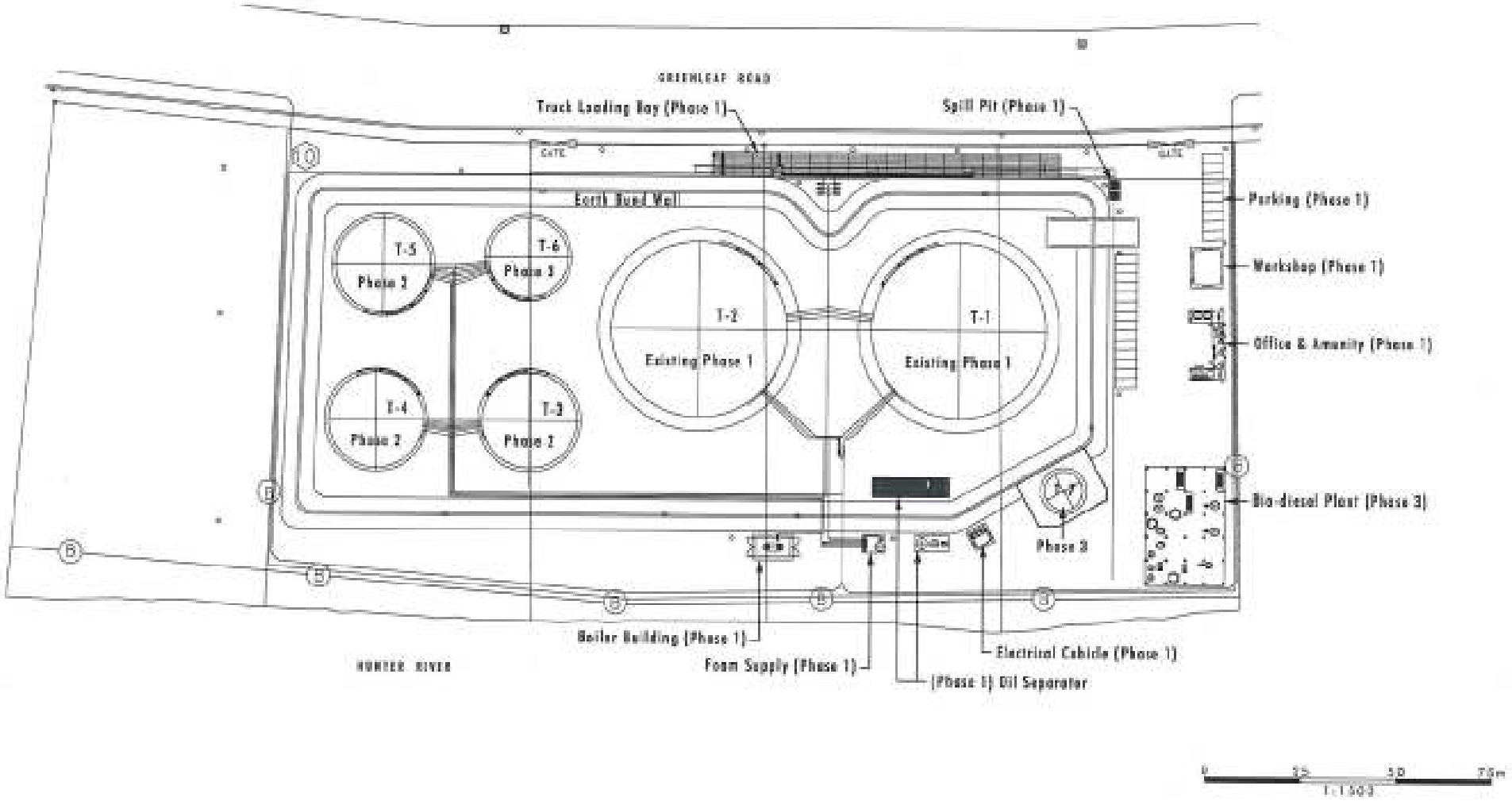

Figure 1: Layout of the Proposed Facility

APPENDIX B: STATEMENT OF COMMITMENTS

7.0 Statement of Commitments

The Statement of Commitments included in the EA has been revised to consider the issues raised in the response to submissions. The Statement of Commitments detail the measures proposed by Manildra Park for environmental mitigation, management and monitoring.

If approval is granted under the *Environmental Planning and Assessment Act 1979* for the Project, Manildra Park will commit to the following controls.

7.1 Operational Controls

7.1.1 All activities will be undertaken generally in accordance with this EA.

7.1.2 The Project will operate up to 24 hour per day 7 days per week.

7.2 Noise

7.2.1 Construction activities which are audible at any residential or other sensitive receiver will be limited to between 7.00 am and 6.00 pm Monday to Friday and 8.00 am and 1.00 pm Saturdays.

Works proposed to be undertaken outside of these hours includes:

- any works that do not cause construction noise emissions to be audible at any nearby sensitive noise receiver;
- the delivery of materials as requested by the Police or other authorities for safety reasons;
- emergency work to avoid the loss of life, property and/or prevent environmental harm; and
- any other work as agreed through negotiation between Manildra Park and potentially affected noise receivers or as otherwise agreed by the DECC.

Noise Mitigation Measures

7.2.2 During the detailed design and procurement process Manildra Park will ensure noise emissions from the facility meet the DECC goals.

7.2.3 Noise emissions from all pumps associated with Phase 3 operations will be enclosed or mitigated.

7.3 Traffic

Pipeline Construction

7.3.1 Manildra Park will provide appropriate traffic management controls during the construction of the transfer pipeline during Phase 1 of the Project. Traffic management controls will include a one lane ‘stop-go’ control along Heron Road and/or the temporary closure of both Heron and Greenleaf Roads.

7.3.2 Manildra Park will consult with the RLMC (or its successor), traffic management operators, Newcastle City Council and the RTA to determine the most effective traffic management measures to be implemented during the construction of the pipeline during Phase 1 of construction.

Operational Traffic Controls

Operational traffic management measures to be implemented include:

7.3.3 Provision of a minimum of 18 parking spaces on-site, where possible.

7.3.4 Overnight heavy vehicle parking will be accommodated for on-site.

7.3.5 The design of the access driveway, and internal access roads, will conform to Australian Standard *AS 2890.2:2002 - Off Street Commercial Vehicle Facilities*.

7.3.6 Provision of appropriate access driveways and circulation roadways, as well as loading areas, which will ensure that all manoeuvring occurs on site.

7.3.7 The design of on-site service areas including the refuelling, service or maintenance bays, will be in accordance with *AS 2890.2*, where appropriate. Through bays may be utilised where the vehicles do not need to manoeuvre on either approach or departure to the service area.

7.3.8 As a principle, heavy vehicles will use the route via Greenleaf Road and the Teal Street on and off ramps for access to and from the west to minimise any potential traffic flow issues.

7.4 Hydrocarbon Management

Manildra Park will manage the risk of hydrocarbon spills through the implementation of a range of physical controls and mitigation measures in the handling of hydrocarbons in the storage, transfer pipeline, refuelling barge and the road tanker loading/unloading bay. The specific physical controls and mitigation measures to be implemented include:

Storage

7.4.1 The following physical controls and mitigation measures have been incorporated into the design and operation of the terminal:

- the storage tanks and connecting pipeline infrastructure has been designed in accordance with *AS 1940:2004 - The storage and handling of flammable and combustible liquids*;
- a leak detection system has been incorporated within the base of each tank;
- the tanks are contained within a bunded area which has been designed in accordance with *AS 1940*. The bunded area has a storage capacity of approximately 110 per cent of the storage capacity of the largest tank. This capacity has also taken into account firewater and rainfall events;
- the bunded area will be lined with high density polyethylene (plastic), ensuring that any spills can not disperse into the soil and/or groundwater;

- prior to commencement of construction of the tank farm bund, or parts of it, Manildra Park will submit a **Tank Farm Bunding Detailed Design and Construction Report**. ("the Report"). The Report will include, but need not be limited to the following:

    - the bund technical specifications including details such as final footprint, size, containment volumes and permeability details;

    - design of the bund lining system to achieve an impermeable barrier with appropriate early warning leak detection and leak prevention systems that are reviewed by a site auditor accredited under the *Contaminated Land Management Act 1997,* prior to the commencement of construction of these facilities;

    - bund construction methodology, including construction quality assurance procedures and timeframes;

    - measures to ensure that any liquids contained within the bund are securely contained and that there is no migration of contaminants from the bund that could cause pollution of ground waters or other risk of harm to human health or the environment; and

    - details of assessment and monitoring programs to ensure that the performance objectives of the bund are achieved and that the bund continues to provide an effective barrier for the prevention of pollution of land and waters;

- as-constructed drawings will be prepared from field surveys which depict the basal elevation of the bund, the upper surface of the liner(s), any geotextiles, engineered liners and sealed layers of the bund;

- prior to the bulk storage of fuel commencing on site, Manildra Park will provide a report which confirms that the bunds infrastructure has been installed in accordance with the **Tank Farm Bunding Detailed Design and Construction Report**. The report will include the 'as constructed drawings', the construction quality control results and written advice from the person(s) overseeing the works to advise whether or not they were installed in accordance with the approved design and construction specifications;

- an automated monitoring system will be installed in all tanks (radar gauge and Programmable Logic Control system-fuel level detector), which will automatically stop fuel pumping if the storage level in the tank exceeds its designed limits during a fuel transfer, i.e. high level alarms;

- standby emergency spill kits are available. Additional resources are available from the Newcastle Port Corporation and from Australian Marine Oil Spill Centre (AMOSC) members located in the area, such as Shell etc;

- isolation valves are physically locked when not in use; and

- valves located within secure/fenced area.

Transfer Pipeline

7.4.2 The following physical controls and mitigation measures have been incorporated into the design and operation of the transfer pipeline:

- the design, construction, operation and maintenance of the pipeline will be undertaken in accordance with *AS 2885 Pipelines – Gas and liquid petroleum*;
- the pipeline will be cathodically protected for enhanced anti-corrosion properties;
- any underground or inaccessible sections will be sheathed in polymer coating or wrapped in anti-corrosion impregnated tape;
- flexible hoses will be blown out and cleared of fuel with compressed air at end of every use, prior to disconnecting the flexible hose;
- fuel will be removed from the transfer pipeline at the conclusion of each transfer operation i.e. the pipeline will be pigged. The transfer pipeline is empty when connecting flexible hose/or not in use;
- drip trays of a size to Australian Standards will be located underneath the point of connection between the steel pipeline and flexible hose on wharf and barge. Drip trays to be removed by hand and cleaned at terminal;
- the pig points will be bunded. The capacity of the bund will exceed the capacity of the pig hatch;
- the terminal tank(s) will be dip gauged before filling the pipeline and after pigging pipeline to ensure zero fuel remains in pipeline, i.e. confirm the total volume of fuel dispatched/received;
- the volume of fuel dispatched/received will be cross checked at both ends;
- regular (every half hour) cross checks of volume dispatched from terminal to that received at the berth and visa versa;
- regular (continuous at start of pumping then every half hour) cross checks of the pressure within the pipeline at the terminal to that at the berth will be undertaken. Pressure is logged on the Product Transfer Form;
- automatic shut off of the terminal pumps will occur if the maximum operating pressure of the pipeline is exceeded;
- visual inspection of the pipeline will be undertaken prior to and during loading. Half hourly checks will be undertaken during loading;
- emergency stop buttons will be located at staffing points i.e. at terminal, berth, and refuelling barge. Staff walking the pipeline will be in contact with staff at these locations via a radio;
- multiple isolation valves are located along the pipeline, i.e. damaged sections of the pipeline to be isolated to minimise spills;
- isolation valves are physically locked when not in use;

- non-return valves used on pipeline;
- flexible hoses used for fuel tanker vessel discharge will be pressure tested prior to every discharge operation;
- pressure testing of the transfer pipeline will be undertaken at the following intervals:
    - on installation, the pipeline will be pressure tested to 1.5 times its maximum allowable operating pressure;
    - yearly hydrostatic leak and strength testing of pipeline in accordance with the existing operating procedure at Port Kembla; and
    - monthly air pressure test of pipeline in accordance with the existing operating procedure at Port Kembla;
- flexible hoses for barge and ship refuelling are pressure and continuity tested every six months in accordance with the existing operating procedure at Port Kembla;
- valves located within secure/fenced area;
- collision aspects have been considered in the design of pipeline. Physical protection methods e.g. bollards, armco guard rail etc and high visibility colours and signage on pipeline including emergency contact phone numbers will be included where required;
- fuel transfer operations will be undertaken in accordance with Manildra Park's existing operating procedure at Port Kembla;
- minor spills will be cleaned up using spill kit materials;
- large volume of spilt oil to be removed by a licensed waste oil contractor (e.g. Nation Wide Oil), as required;
- appropriately trained and competent operators in accordance with the existing operating procedure at Port Kembla; and
- multiple staff are located a critical locations during barge refuelling operations allowing for greater awareness and quick response to any issues.

The Refuelling Barge

7.4.3 The following physical controls and mitigation measures have been incorporated into the design and operation of the refuelling barge:

- the barge will be double hulled/double skinned;
    - if the hull of the barge is damaged the contents will be emptied to a ship or the terminal; and
    - additional water based spill control equipment and resources can be called on from the Newcastle Port Corporation and Australian Marine Oil Spill Centre (AMOSC) members e.g. Shell etc;

- Manildra Park will have an emergency response vehicle and punt based on land and the barge will also carry oil spill response equipment (e.g. floating booms) Manildra Park's Oil Spill Response system and capability exceeds IMO & AMSA 'Marine Oil Spill & Pollution Guidelines';

- all loading operations are computer controlled using Programmable Logic Control system at terminal;

- flow meters provide readings of volumes transferred with automatic presets to stop pumps at set volumes;

- radar gauge is used to provide constant readout of barge tank capacity with alarms activated when tanks are nearing capacity;

- manual dippings and ullages (the volume remaining in the tank) at terminal tanks and barge tanks, are undertaken to confirm flow meter and radar gauge readings;

- fuel is to be loaded evenly between the barges tanks to minimise the listing of the refuelling barge;

- the barge includes a dedicated overflow/slops tank;

- radio contact between barge, terminal and staff walking the pipeline is available at all times;

- maintenance of barge is undertaken as part of overall maintenance program;

- the operation and calibration of measuring equipment is undertaken as per existing operating procedure at Port Kembla;

- minor spills to be cleaned up using spill kit materials;

- large volumes of spilt oil to be removed by licensed waste oil contractor (e.g. Nationwide Oil), as required;

- multiple staff at critical locations during barge refuelling operations allowing for greater awareness and quick response to any issues;

- emergency stop buttons located at staffing points;

- additional equipment and resources can be called for from the Newcastle Port Corporation and Australian Marine Oil Spill Centre (AMOSC) members e.g. Shell etc;

- all Manildra Park staff are trained and accredited by the Australian Marine Oil Spill Centre (AMOSC);

- procedures adhere to International Safety Guideline for Oil Tankers and Terminals (ISGOTT) Manual; and

- competent and trained operators e.g. Barge Master.

Road Tanker Loading Unloading Bay

7.4.4 The following physical controls and mitigation measures have been incorporated into the design and operation of the road tanker loading/unloading bay:

- truck loading occurs within a bunded concrete area;
- all spills/stormwater within the loading bay are directed to a 20 KL Spill Pit meeting AS 1940 requirements, which includes an impervious lining layer, such as bentonite (clay) or high density polyethylene (plastic) and provides capacity for spillage from one 8 KL road tanker compartment;
- trucks connect to a PLC system during loading, which controls the loading process via:
  - correlating volume to be loaded with truck ID Tag; and
  - the Scully system i.e. sensor which detects fuel level in tank and activates automatic shut off if triggered;
- flow meters provide readings of volumes transferred with automatic presets to stop pumps at set volumes;
- radar gauge is used to provide constant readout of tank capacity with alarms activated when nearing tank capacity;
- emergency stop buttons are located at filling bays;
- trucks fitted with brake interlocks, which prevents the truck from driving off while connected to the loading bay hoses;
- hoses are fitted with dry break couplings which prevents spills/leaks during connection/disconnection operations; and
- mobile spill kits will be available at the loading site (e.g. wheelie bins with quick response resources).

General

7.4.5 Manildra Park will prepare and implement a **Containment Bund, Tank and Pipeline Integrity Assessment Program**. The Program will detail measure(s) to assess the integrity of the tank farm containment bund, other containment structures, tanks and transfer pipelines during the life of the facility. The Program will include but need not be limited to measures to monitor the effectiveness/integrity of the bunds, tanks other containment structures and pipelines.

Asset Security and Training

7.4.6 A site security plan will be developed prior to the commissioning. This plan will detail how access to fuel storages, master flow and drain values, pumps loading/unloading connections and pipelines will be secured and controlled.

7.4.7 Staff will receive inductions and regular operational training reflective of their roles and responsibilities.

7.5 Hydrology and Water Quality

Construction

7.5.1 A Soil Water Management Plan will be developed in accordance with the requirements of the *Managing Urban Stormwater: Soils and Construction* (NSW Landcom 2004) (the Blue Book) to outline the sediment and erosion control measures implemented during the construction phase.

Operation

7.5.2 Water controls will be designed and constructed to divert clean water around the Project site.

7.5.3 Water collected from dirty areas on site will be stored within spill pits and/or bunded areas (fitted with a high density polyethylene (plastic) impervious liner) and treated. Prior to discharge off site water will be sampled and analysed to ensure it meets the relevant criteria outlined in **Table 7.1**.

Table 7.1 - Water Quality Discharge Criteria

Water Quality Parameter	Unit of Measure	Criteria 100 % Concentration Limit
pH	pH	6.5 – 8.5
Total Suspended Solids	mg/L	50
Oil and Grease	visible	none
Chemical Oxygen Demand	mg/L	40
Volume	KL	none
BOD	mg/L	No limit specified

7.5.4 Wash water generated during the production of biodiesel will be transported off site to an approved facility for disposal;

7.5.5 A comprehensive groundwater monitoring program will be developed in consultation with DECC and establish trigger levels which represent limits to indicate the detection of groundwater pollution. The groundwater monitoring parameters includes:

- electrical conductivity;
- pH;
- total suspended solids;
- total petroleum hydrocarbons; and
- total oil and grease.

7.5.5 An oil response and prevention plan will be developed.

7.5.6 Effluent from the enviro system will be trucked off site for disposal at an approved facility.

7.5.7 Groundwater samples will be collected and analysed for a period of at least 24 months from the commencement of construction. From this monitoring data Manildra

Park will establish for each parameter the range of concentrations/units indicative of uncontaminated groundwater at the premises.

7.5.8 Within 27 months from the commencement of construction date Manildra Park will submit in writing to the DECC the data obtained under the groundwater monitoring program. The data will be submitted in both graphical and tabular form.

7.5.9 Within 27 months from the commencement of construction date Manildra Park will submit in writing to the DECC and seek written approval for the following:

- a list of parameters and sampling frequencies to be used as the basis of groundwater testing for an on-going groundwater monitoring program; and
- a list of concentrations/units for the parameters to be used as limits to indicate the detection of groundwater pollution when compared to the groundwater test results obtained from the on-going groundwater monitoring program.

7.6 Air Quality

Air Quality Management and Mitigation

Manildra Park have committed to the following air quality management and mitigation measures for the Project:

Construction

7.6.1 Maintenance of appropriate dust management controls during the construction phase of the Project including minimisation of disturbed areas, watering of exposed surfaces during construction and the stabilisation of exposed areas post construction;

Operation

7.6.2 Fitting diesel, marine fuel, biodiesel and associated feedstock (vegetable oils) storage tanks with floating roofs and pressure release valves to assist in minimising vapour emissions from the tanks;

7.6.3 The biodiesel methanol process tank will be blanketed using nitrogen.

Air Quality Monitoring

7.6.4 During the operation of the biodiesel plant, Manildra Park will monitor the methanol recovery system to ensure that it is operating at least 80 per cent efficiency at all times. A shutdown procedure will be implemented if the methanol recovery system is operating at less than 80 per cent efficiency at any time.

7.7 Visual

7.7.1 The site will be landscaped to improve the visual amenity of the site. Native tree and grass species will be selected for landscaping. The species used would be endemic to the area and would complement the objectives of the Kooragang Wetland Rehabilitation Project.

7.7.2 All lighting associated with the proposed development will be designed, installed and operated in accordance with *AS 4282:1997 - Control of the Obtrusive Effects of Outdoor Lighting*.

7.7.3 A weed management plan will also be incorporated into the landscape management plan.

7.8 Hazard and Operability

The preliminary hazard analysis (refer to **Appendix 8**) identified a range of technical control measures and non-technical safeguards and procedures that will be put in place to reduce the level of risk associated with the operation of the facility.

7.8.1 The technical control measures to be implemented include:

- design of tanks, plant, bunding and piping in accordance relevant standards and codes;
- design of surface drainage systems to prevent contamination of surrounding waterways;
- equipment selected for respective hazardous area classification to control ignition sources;
- provision of emergency isolation valves, shut down system and backflow prevention devices;
- reversion of valves, process equipment and control systems to fail safe positions;
- auto shutdown of plant on high temperatures or pressures;
- install tank level device(s) as appropriate and provision of high level alarms;
- physical barriers including bunding and bollards;
- ensuring biodiesel and methanol is stored at suitable conditions to prevent fires and explosions, including venting and nitrogen blanketing;
- control of ignition sources;
- storage of dangerous goods in dangerous goods compliant stores;
- inlet and outlet flow monitoring during ship transfers;
- implementation of leak detection system;
- provision of pump deadhead instrumented protection and recycle lines;
- provision of flame arrestors on vent systems;
- installation of oil/water separators to remove contamination prior to discharge; and
- provision of fire detection system and fire suppression fire water ring main and if required by Australian standards cooling water system and foam deluge fire fighting system.

7.8.2 The non technical safeguards and procedures to be implemented include:

- conducting HAZOPs of process designs, site layout and design changes;
- equipment and plant inspection and maintenance procedures;
- operating procedures, including manual tank transfers, and training;
- cessation of operations in adverse weather conditions;
- operator monitoring of control conditions such as inlet and outlet flow monitoring during ship transfers, leak detection systems;
- Hot Work/Safe Work Procedure;
- implementation of site speed limit and driver training;
- provision of security measures include 'person proof' fencing, CCTV, intruder beams, security patrols, operator/driver vigilance, security access pass for after hours access;
- isolation of the tank farm from the truck loading area when the facility is not manned via fencing i.e. access to tank farm prohibited. Trucks and drivers can only access the truck loading area via a swipe card arrangement;
- development of spill response procedures and management plan;
- provision of PPE and safety shower/eye wash;
- appropriate training and supervision of operations;
- provision of on-water pollution response equipment and plan;
- ensure no flammable class 3 liquids are stored in the same bund area as the combustible C1 substances;
- preparation of a Fire Safety Study;
- procedures are in place for the storage and handling of dangerous goods;
- management procedure for contaminated soil in accordance with Orica Management Plan; and
- preparation of an Emergency Response Plan in accordance with HIPAP 1 that coordinates onsite activities and defers authority to the Local Emergency Operations Controller once external support is sort is response to the emergency. The Local Emergency Operations Controller is the position as defined in the *Newcastle Disaster Plan Newcastle City Council 2005*.

7.8.3 Manildra Park will also implement the following safeguards as recommended by the PHA for the management of the hazards associated potential methanol fires:

- conducting a HAZOP of the process design to minimise the potential for the loss of containment of methanol on site;
- the design, inspection and maintenance of the facility to ensure that infrastructure is fully secure and operational;

- access to foam fire fighting systems to control and mitigate any fires encountered; and

- control of ignition sources.

7.9 Soil and Groundwater Contamination

Pipeline Construction

7.9.1 Prior to disturbance of soils within the identified Orica contamination zone, for pipeline construction Manildra Park will follow the processes outlined in the Orica EMP.

7.9.2 A physical barrier such as a clay plug will be constructed at the northern and southern extents of the contamination zone

Construction and Operation

7.9.3 In the event of any potential or actual ASS/contaminated material being encountered, the following management measures will be implemented:

Materials Handling:

- separate stockpiles for different materials;

- stockpiles to be located within a bunded area;

- liming of the stockpile ground prior to the stockpiling of ASS material; and

- the stockpile will be treated with lime as required.

Testing:

- testing of ASS and treatment with lime as required; and

- classification of material prior to disposal.

7.9.4 Where possible, ASS material will be treated and re-used for the backfilling of pipeline trenches, or other construction activities on site. Contaminated material may also be encapsulated within the on site earthen bunds or used as backfill material in the trench. In the event that the material cannot be successfully treated and or reused it will be removed from site. If additional material is required for the construction of the bund, only Virgin Excavated Natural Material (VENM) will be imported and used unless otherwise approved in writing by DECC.

7.9.5 A remediation action plan will be prepared for the handling of lead contaminated material that occurs in surface layer around the base of the existing tanks.

7.10 Greenhouse Management

7.10.1 Assess the viability of implementing energy management systems;

7.10.2 Seek continuous improvement in energy efficiency in the onsite processes; and

7.10.3 Assess and implement energy and greenhouse management initiatives during the design and operation of the Project.

7.11 Waste Management

7.11.1 The management of waste materials generated by the construction and operation of the Project will be managed through the design; procurement of construction materials and purchasing; identification and segregation of reusable and recyclable materials; processing materials for recycling; and considering environmental impacts for waste removal processes.

7.12 Environmental Management, Monitoring, Auditing and Reporting

Environment Management System

7.12.1 Manildra Park will develop and implement an Environment Management System to outline the environmental management practices to be implemented during the construction and operation of the Project.

Environmental Protection Licence

7.12.2 Manildra Park will obtain an Environmental Protection Licence for the Project.

Independent Environmental Audit

7.12.3 Three years after the commencement of the Project, and every four years thereafter, Manildra Park will commission and pay the full cost of an Independent Environmental Audit of the Project.

Incident Reporting

7.12.4 Within seven days of detecting an exceedance of the limits/performance criteria in this approval or an incident causing (or threatening to cause) material harm to the environment, Manildra Park will report the exceedance/incident to the Department, and any relevant agency. The report will:

- describe the date, time, and nature of the exceedance/incident;
- identify the cause (or likely cause) of the exceedance/incident;
- describe what action has been taken to date; and
- describe the proposed measures to address the exceedance/incident.

Community Enquiry Phone Number

7.12.5 Prior to the commencement of construction, Manildra Park will implement, publicise and list with a telephone company a contact phone number, which would enable the general public to reach a person who can arrange appropriate response action to the enquiry. Manildra Park will maintain a register to record details of all enquiries received and actions undertaken in response. Manildra Park will supply the DECC with a copy of the enquiries register on an annual basis.